MEMORANDUM

SUBJECT: Guidance for Review and Approval of State Underground Injection Control (UIC) Programs and Revisions to Approved State Programs. GWPB Guidance #34

FROM: Victor J. Kimm, Director
Office of Drinking Water (WH-550)

TO: Water Division Directors
Regions I - X

PURPOSE

The purpose of this document is to provide guidance to EPA Regional Offices on the revised process for the approval of State primacy applications and the process for approving modifications in delegated programs, including aquifer exemptions.

BACKGROUND

On January 9, 1984, the Deputy Administrator announced an Agency policy for a State program approval process placing the responsibility on Regional Administrators to recommend UIC program approval to the Administrator and making Regional Administrators clearly responsible for assuring that "good, timely decisions are made." At the same time, we are reaching a point in the UIC program where States are beginning to make revisions to approved programs and we are promulgating amendments to the minimum requirements that the States must adopt within 270 days. We have reviewed the existing approval process and this Guidance spells out the adjustments necessary to comply with the Agency's policy. [redacted] take effect on July 5, 1984, and applies to [redacted] primacy applications [redacted], which [redacted] both [redacted] under the Safe Drinking Water Act. [redacted]

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CONCURRENCES							
OFFICE	SPD	OGC					
SURNAME	Bzh						
DATE	7/5/84	7/6/84					

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I REVIEW AND APPROVAL OF APPLICATIONS

REGIONAL ROLE

The effect of the new Agency policy is to give Regions greater responsibility for managing the delegation of EPA programs. The FY 1984 Office of Water Guidance suggests that Regions develop State-by-State delegation strategies, although formal schedules for submittal and approval of State applications are not required after FY 1984. Regions are to work with States to develop approvable applications. They are to solicit and resolve Headquarters comments, "keep the clock" on the formal review period, recommend approval to the Administrator, and are responsible for timely approvals. In this process, the Regions speak for the Agency on approval matters but are advised not to make commitments regarding unresolved major issues raised by Headquarters Offices.

Draft applications

The Regions are responsible for working with the States and getting them to submit draft applications so that problems can be identified and resolved in the early stages. The draft applications should be submitted as early as possible to Headquarters for comments, and Headquarters comments discussed with the States. (Guidelines on resolving recurring problems in State applications are included as Attachment 1.)

Final applications

Upon receipt of a final application the Regions will:

1. determine whether the application is complete, and if it is:

2. send copies of the final application to Headquarters for review, accompanied by a staff memorandum explaining how issues raised on the draft application have been resolved; (This should be done as early as possible so that Headquarters comments can be received before the public hearing.)

3. take care of the public participation process including: selecting a date for the public hearing, making the necessary arrangments for holding the hearing and publishing notice in the Federal Register;

4. work with the State to resolve all remaining issues identified either during the public participation process or by Headquarters;

5. when all issues have been resolved, prepare and transmit to Headquarters an Action Memorandum signed by the Regional Administrator recommending approval, explaining the major issues and their resolution, a Federal Register notice of the Administrator's decision, and a staff memorandum explaining how all issues have been resolved.

HEADQUARTERS ROLE

The policy specifies that program Assistant Administrators, the General Counsel, and the Assistant Administrator for Enforcement and Compliance Monitoring have the authority to raise issues which must be resolved prior to the approval of the State program. The policy also states that the process should include time limits for completion of reviews by all offices, that new issues should not be raised or old issues reopened unless there are material changes in the application, and that there should be some distinction between major objections which must be resolved before program approval and comments of a more advisory nature. We believe that for the sake of expeditious and consistent reviews, ODW should retain the role of coordinating Headquarters comments.

Draft applications, Final applications.

These and any other material for review by Headquarters should be sent to the Director, State Programs Division (SPD). The SPD will coordinate the review process with Office of General Counsel, Office of Enforcement and Compliance Monitoring and internally within the Office of Water. The Regions will be advised of the issues raised by the Review Team by a conference call between the Review Team and Regional staff. Written comments distinguishing major issues and advisory comments (if necessary) will be sent within 15 working days unless there is voluminous material to be xeroxed, in which case the review period will be extended to 20 working days. (The Region will be notified if such extension is necessary.) Written comments will be signed by the Director, State Programs Division.

Action memorandum and Federal Register Notice of Approval

These should be sent to SPD which will be responsible for obtaining the proper concurrences from all AAs involved and sending the package to AX for signature. The staff memorandum explaining resolution of all issues will be reviewed at the Review Team level within 5 working days. Assuming that all issues have been taken care of the process for obtaining all necessary signatures will take between 30 and 45 days.

II. PROGRAM REVISIONS

INTRODUCTION

Following EPA approval of a State UIC program, the State will from time to time make program changes which will constitute revisions to the approved program. The UIC regulations address procedures for revision of State programs at 40 CFR §145.32. These regulations direct the State to "keep the Environmental Protection Agency (EPA) fully informed of any proposed modification to its basic statutory or regulatory authority, its forms, procedures, or priorities." [redacted]

To date EPA has encountered the following types of revisions to approved State programs:

- Aquifer exemptions;
- Minor changes to the delegation memorandum of agreement;
- Regulatory and statutory changes which resulted in a more stringent program;
- Revisions to State forms which were part of the approved program;
- Transfer of authority from one State agency to another;
- Alternative mechanical integrity tests.

While providing a basic framework for program revisions, the regulations are not specific in defining "substantial" and "non-substantial" program revisions. These categories are defined below.

Definition of Program Revisions

Revisions to State UIC programs require EPA approval or disapproval actions only if they are within the scope of the Federal UIC program. Aspects of the program which are beyond the scope of the Federal UIC regulations are not considered program revisions under §145.32. For example, if a State

modifies permitting requirements for Class V wells, this would not be considered a program revision as long as the modified requirement was at least as stringent as the Federal UIC regulations, since the regulations do not require specific permitting of Class V wells.

"Substantial" versus "Non-substantial" Revisions

The wide range of possible program revisions and varying situations from State to State makes it impossible to establish a firm definition of what constitutes a "substantial" program revision. However, as a general rule, [redacted]

1. Modifications to the State's basic statutory or regulatory authority which may affect the State's authority or ability to administer the program;

2. A transfer of all or part of any program from the approved State agency to any other State agency;

3. Proposed changes which would make the program less stringent than the Federal requirements under the UIC regulations (or the Safe Drinking Water Act, for Section 1425 programs); and

4. Proposed exemptions of an aquifer [redacted] TDS which is: (a) related to any Class I well; or (b) not related to action on a permit, except in the case of enhanced recovery operations authorized by rule.

Any program revision which requires action by EPA, but which is not considered "substantial", will be a "non-substantial" revision.

REGIONAL ROLE

Substantial Program Revisions

Upon determining that a program revision is substantial, the Regions will:

1. send copies of the proposed revision to SPD;

2. take care of the public participation process;

3. work with the State to resolve problems, if any;

4. prepare an Action Memorandum and a Federal Register notice of Administrator's approval.

Non-substantial Revisions

[redacted] The Regions will forward a copy of the approval letter and of the approved revision to the State Programs Division.

Disapproval of Program Revisions

Disapproval of a proposed State program revision may be accomplished by a letter from the Regional Administrator to the State Governor or his designee.

For all aquifer exemptions, the Region should fill out and send to the SPD an Aquifer Exemption Summary Sheet (Attachment 2). If the exemption constitutes a substantial program revision or requires ODW concurrence, as much of the supporting material as feasible should be sent along. (Large maps and logs are difficult to reproduce and may be omitted.) Aquifer exemptions that constitute substantial revisions will be handled as described above. Where ODW concurrence is necessary it will be in the nature of a telephone call from the Director, SPD, because of the potential for short approval timeframes. Approval will be confirmed later by a memorandum. Guidelines for review of aquifer exemptions are included as Attachment 3.

[redacted] Therefore, such proposals and appropriate supporting documents should be submitted to the State Programs Division. The SPD will transmit them to the UIC technical Committee for review. If the Committee supports approval of the test, the Director of ODW will inform the Regions and approve the test as a "non-substantial" program revision.

III. RESOLUTION OF DIFFERENCES

The major effect of the Agency policy should be to speed up the resolution of issues. The policy states that senior managers are responsible for assuring that early consultation takes place so that issues can be identified and resolved internally as early as possible. Regional

Administrators are responsible for elevating to top managers those issues upon which there is internal disagreement. Differences can arise within Headquarters and between Headquarters and Regions. They will be handled as follows for both program approvals and substantial program modifications.

Within the HQ review team

If the Heaquarters Review Team cannot agree on whether an issue should be raised, the Review Team memorandum will reflect the majority comments. The dissenting office may send a memorandum signed by its Office Director or equivalent to the Water Division Director explaining its issue. If the Region agrees, it will raise the issue with the State. If not, the issue will be resolved using the process outlined below.

Between Headquarters and Region

1. The first step should be a Regional appeal to the "Bridge Team" (Office Directors). This can be accomplished within 10 working days. The Region should notify SPD by telephone that there is disagreement on a given issue. A Bridge Team meeting will be scheduled within 7 to 10 working days. The Region can attend the meeting, send a memorandum explaining its position, or rely on the SPD to present the Region's position. The decision of the Bridge Team will be communicated to the Region by telephone as soon as it is made, and confirmed, for the record, in a memorandum signed by the ODW Office Director with concurrence from other offices involved.

2. If this fails the Agency's "Decision-Brokering" Process should be invoked. This process is explained in detail in a February 1, 1984, memorandum from Sam Schulof. (Attachment 4)

IV. IMPLEMENTATION

This Guidance takes effect on July 1, 1984. We realize that many applications are now in the review process. For the sake of simplicity and clarity this process will only apply to those pending applications for which a public hearing has not been held or announced by that date.

Attachments

[redacted]

Attachment 1

JUL 9 1984

GUIDELINES FOR RESOLVING RECURRING PROBLEMS IN UIC APPLICATIONS

Inadequate statutory authority

1. Authority to regulate all underground injection.

The regulations require that a State must have the authority to "prohibit any underground injection except as authorized by permit or by rule" 40 CFR §144.11. Many States have not enacted specific statutes parallel to the Safe Drinking Water Act (SDWA), but rely on the authority provided by statutes enacted to comply with RCRA or CWA. In such statutes the State's authority is often keyed to disposal of wastes or the regulation of pollution. If the definitions of these terms are not broad enough the State may not have the authority to regulate all classes of wells. The problem can usually be solved by the Attorney General if in his statement of legal authority he can make a colorable argument that the statutes do, in fact, give the State broad authority to regulate "non-waste" injection.

2. Authority to impose minimum requirements as stringent as the federally prescribed minimum requirements.

Even if a State can demonstrate authority over all injections, the enabling statute may not provide the authority to impose certain specific requirements. For example, a statute which simply mandates non-endangerment or protection of the "beneficial uses" of ground water may not provide the authority to impose construction requirements designed to achieve non-migration of fluids as prescribed by 40 CFR §§146.12, .22, and .32. As above, this issue can be solved by the Attorney General if he can assert that the specific technical requirements to be imposed by the State are within the authority established by the State's statute.

3. Authority on Federal lands and over Federal facilities.

State authority to regulate injection on Federal lands and by Federal agencies and facilities is explicitly required by the Act. Section 1421(b)(1)(D). Therefore, the State must demonstrate such authority.

Demonstration of authority over Federal agencies can usually be done by assuring that the State's definition of "person" or "owner or operator" includes officers or agencies of the Federal Government. At the very least, these should not be excluded from the definition, and the Attorney General should assert that the definition is broad enough to cover such entities.

As far as demonstration of authority over Federal lands is concerned, the Attorney General statement should include an explicit finding that the State has the authority to apply its UIC program on Federal lands. Furthermore, because the U.S. Geological Survey regulates some classes of wells on Federal lands, the Program Description should include a section describing the relationship between the State's and the Survey's regulatory activities.

4. Authority over Indian lands.

The UIC regulations assume that implementation on Indian lands is a Federal responsibility unless: 1) the State chooses to assert jurisdiction; and 2) the State demonstrates the necessary legal authority.

Several States which have asserted jurisdiction over Indian lands have relied on the fact that they have regulated non-Indian operators on these lands for years. This does not constitute an acceptable demonstration. There needs to be a discussion in the AG statement explaining the basis for the State's authority. A simple assertion from the Attorney General does not suffice since he is not simply interpreting State law but discussing relationships between State and Federal jurisdictions. The application must include the treaties or Federal statutes which grant the State such authority and the text of any opinions in any court case in which the State's authority in this regard was tested.

Inadequate demonstration under 40 CFR §145.21.

Pursuant to 40 CFR §145.21(d), a State need not develop a full regulation for a given class of wells if the State can demonstrate that no wells of the class exist, and that none can legally occur.

The demonstration that no well of a given class exist should be based on a reliable inventory or on geological or hydrological facts, and not be an unsubstantiated assertion.

The determination of whether a class of wells cannot legally occur is a matter of State law, and EPA will rely to a large extent on the interpretation of State law and regulations in determining whether the State has met the standard. Such a demonstration need not be made by any single set of circumstances. In all cases the State must have statutory authority over the class of wells. Where the State has an explicit statutory or regulatory prohibition of the class of well this obviously is an adequate demonstration. Where the State has no regulations the State might make the demonstration by showing that no injection may be authorized without a permit and that under law the State cannot issue permits (even if requested in the absence of regulations.

Where the State does have applicable regulations the State might make the demonstration that no injection may occur without a permit by agreeing with EPA not to issue any permits and by showing that the State has the absolute discretion to make such an agreement. Other types of demonstrations may also be possible if they accurately reflect State law as stated by the Attorney General.

Inadequate definition of the resource to be protected.

1. Definition of underground sources of drinking water.

The Federal regulations define underground sources of drinking water (USDWs) explicitly at 40 CFR §144.3. A number of statutes that we have reviewed authorize the State agency to protect "waters of the State" or "fresh water". These terms leave a great deal of discretion to the State agency to define the resource to be protected. The discretion should be tied down in the regulations which should use EPA's definition. If this cannot be done then, at the very least, the State should agree in the MOA to interpret its definition as being as broad or broader than EPA's and the Attorney General statement should certify that it is within the State's authority to do so.

2. Aquifer exemptions.

In some States, Class II and III operations may be taking place in aquifers containing less than 10,000 mg/l TDS. These aquifers must be exempted in accordance with 40 CFR §146.04 in order for these operations to remain legal. [redacted] The aquifer must also be identified in terms of areal extent and depth.

3. EPA role in subsequent exemptions.

There must be a clear agreement on the part of the State that exemptions subsequent to approval of the State program will be treated in accordance with 40 CFR §144.7(b)(3). If this is not clear in the State's regulations, the State should address the question in the MOA. EPA will consider some flexibility in the process for approval of these exemptions and the timing of EPA's actions.

Inadequate permitting process.

So far the major problems that we have encountered with regard to permits have been the level of public participation in the

permitting process and the possibility of permits issuing by default.

1. Public participation.

Some State statutes limit the definition of interested parties to such entities as "adjacent landowners" or "mineral rights owners". EPA's regulations require that the general public be informed of permit applications and given the right to comment. This problem can usually be solved by the State agreeing in the MOA to taking whatever additional measures are necessary to assure adequate participation by the public.

2. Default permits.

Several States have statutes which require permit applications to be acted upon within a stated period of time. These requirements must be scrutinized with care. If the effect of the requirement is that a permit automatically issues at the default deadline, the State would not be able to demonstrate that no injection that could endanger underground sources of drinking water will be authorized. In this case, there is little recourse but to get the State to amend its statutes. If, however, the deadline simply compels the State to act, but the State can still require all necessary permit conditions, and assure adequate public participation before the permit is issued, the deadline may be acceptable.

The Attorney General statement should explicitly address the effect of such statutory sections and certify that the State can in all cases impose appropriate permit conditions or deny the permit if such action is warranted.

Inadequate authorization by rule.

If any injection wells are in operation in a State at the time the State's UIC program is approved, these wells become illegal unless permitted or authorized by rule. Since all wells cannot be permitted immediately upon the effective date of the State program the State regulations must contain the language of a rule clearly authorizing the wells to continue operation for a given period of time and spelling out the requirements with which an operator must comply. In some cases however, an existing State permit program already submits owners and operators to the requirements of EPA's authorization by rule. If these permits continue in effect until UIC permits are issued, the State need not authorize wells by rule.

Where applicable the Attorney General statement must certify that the State has the authority to authorize injection by rule and to impose the specific requirements. We have reviewed several programs where the statutes seemed to give the State

only the authority to require permits. The Attorney General should then explain how the State can authorize by rule. A possibility is to state that rules are a form of permits.

Inadequate enforcement authority.

The State statutes should provide for the enforcement mechanisms and civil and criminal penalties in at least the amounts specified in 40 CFR §145.12. EPA may make an exception to these requirements for: 1) Class I, II or III wells where banned, 2) Class II wells covered under §1425; and 3) Class V wells. Furthermore, the State's authority should not be limited by the use of qualifiers such as "willfully" or "knowingly" in the language of the statutory provisions. If a State statute is lacking in regard to any of these provisions it is very difficult to resolve the problem without legislative changes. It is sometimes possible to find other environmental statutes that could provide the necessary penalty authority. The Attorney General must certify that these authorities can be applied to violations of the UIC program.

Finally, the State must have the ability to enforce both against violations of the terms of a permit and violations of the statutes and regulations in general. If the statutes do not explicitly provide that ability and the Attorney General cannot provide a satisfactory argument that the State somehow has this ability, legislative changes may be necessary.

Problems with incorporation by reference

EPA supports the concept of State incorporation by reference of the Federal regulations where the Attorney General can assert that it is consistent with State law. However, if the Federal regulations were ever amended it would be difficult for operators in the State to locate a definite body of regulations that constituted the regulations legally effective in the State. The State may consider actually printing out the language of the Federal regulations in the State administrative code.

[redacted]

JUL 8 1994

AQUIFER EXEMPTION
SUMMARY SHEET

Date application received in Region: _____

Date application sent Headquarters: _____

Date action needed: _____

APPLICANT: _____

HEARING DATE: _____

I.D. NUMBER: _____

EXEMPTION DESCRIPTION (Township, Range, Section, Quarter section and affected area):

FIELD: _____

AQUIFER TO BE EXEMPTED: _____

JUSTIFICATION FOR EXEMPTION:

( ) Aquifer is not a source of drinking water and will not serve as a source of drinking water in the future because it:

- ( ) Has a TDS level above 3,000 and not reasonably expected to serve as a source of drinking water
- ( ) Is producing or capable to produce hydrocarbons
- ( ) Is producing or capable to produce minerals
- ( ) Is too deep or too remote
- ( ) Is above Class III area subject to subsidence
- ( ) Is too contaminated (name contaminant(s)):
- ( ) Other: _____

_____

PURPOSE OF INJECTION: _____

_____

_____

APPLICANT:_____

HEARING DATE:_____

I.D. NUMBER:_____

INJECTED FLUID QUALITY:_____ INJECTION FLUID SOURCE:_____

FORMATION WATER QUALITY: _____

OIL OR MINERAL PRODUCTION HISTORY:_____

_____

_____

_____

_____

ACTIVE INJECTION WELLS INJECTING INTO SAME FORMATION

Field	Location	Injection Interval	Injection Source	Total Depth

WATER USE IN AREA:_____

_____

_____

_____

REMARKS:_____

_____

_____

_____

GUIDELINES FOR REVIEWING

AQUIFER EXEMPTION REQUESTS

BACKGROUND

The Consolidated Permits Regulations (40 CFR §§146.04 and 144.7) allow EPA, or approved State programs with Environmental Protection Agency (EPA) concurrence, to exempt underground sources of drinking water from protection under certain circumstances. An underground source of drinking water may be exempted if:

1. It does not currently serve as a source of drinking water and;

2. It cannot now and will not in the future serve as a source of drinking water because:

   (a) It is mineral, hydrocarbon, or geothermal energy producing, or it can be demonstrated by a permit applicant as a part of a permit application for a Class II or III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;

   (b) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

   (c) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

   (d) It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

3. The Total Dissolved Solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

Regulations at 40 CFR §144.7(b)(1) state that "The Director may identify (by narrative description, illustrations, maps or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite all aquifers or parts thereof which the Director preposes to designate as exempted aquifers. . ."

demonstrate producibility the applicant for a Class III injection well permit may provide a map and general description of the mining zone, analysis of the amenability of the mining zone to the proposed mining method, and a production timetable.

[redacted]

Except as listed above, the regulations do not specify technical criteria for the EPA to judge aquifer exemption requests. The EPA therefore developed the following technical criteria. These criteria include general information requirements common to all aquifer exemption requests. These are followed by specific criteria to evaluate each type of exemption request listed above.

EPA will approve aquifer exemptions for only specific purposes.

[redacted]

hazardous waste disposal into an aquifer exempted for mineral production).

EVALUATION CRITERIA

General

Applicants requesting exemptions must provide the following general information:

1. A topographic map of the proposed exempted area. The map must show the boundaries of the area to be exempted. Any map which precisely delineates the proposed exempted area is acceptable.

2. A written description of the proposed exempted aquifer including:

   (a) Name of formation of aquifer.

   (b) Subsurface depth or elevation of zone.

   (c) Vertical confinement from other underground sources of drinking water.

   (d) Thickness of proposed exempted aquifer.

   (e) Area of exemption (e.g., acres, square miles, etc.).

   (f) A water quality analysis of the horizon to be exempted.

[redacted]

147.2908(b)(1) – ADVANCED by Phillips AS A CONDITION

[redacted]

Specific Information

(2)

147.2908(b)(2)(i)

[redacted]

If the proposed exemption is to allow a Class II enhanced oil recovery well or an existing Class III injection well operation to continue, the fact that it has a history of hydrocarbon or mineral production will be sufficient proof that this standard is met. Many times it may be necessary to slightly expand an existing well field to recover minerals or hydrocarbons. In this case, the applicant must show only that the exemption request is for expanding the previously exempted aquifer and state his reasons for believing that there are commercially producible quantities of minerals within the expanded area.

Applicants for aquifer exemptions to allow new in-situ mining must demonstrate that the aquifer is expected to contain commercially producible quantities of minerals. Information to be provided may include: a summary of logging which indicates that commercially producible quantities of minerals are present, a description of the mining method to be used, general information on the mineralogy and geochemistry of the mining zone, and a development timetable. The applicant may also identify nearby projects which produce from the formation proposed for exemption. Many Class III injection well permit applicants may consider much information concerning production potential to be proprietary. As a matter of policy, some States do not allow any information submitted as part of a permit application to be confidential. In those cases where potential production information is not being submitted, it may be necessary for EPA to participate

with the State in discussions with the applicant to obtain sufficient evidence to indicate that the ore zone is commercially producible. The information to be discussed would include the results of any R & D pilot project.

[redacted]

- Production history of the well if it is a former production well which is being converted.
- Description of any drill stem tests run on the horizon in question. This should include information on the amount of oil and water produced during the test.
- Production history of other wells in the vicinity which produce from the horizon in question.
- Description of the project, if it is an enhanced recovery operation including the number of wells and their location.

(3e)

147.2908(b)(2)(i-b) ADVANCED by Phillips AS A condition

[redacted]

EPA consideration of an aquifer exemption request under this provision would turn on: [redacted]

- Distance from the proposed exempted aquifer to public water supplies.
- Current sources of water supply for potential users of the proposed exempted aquifer.
- Availability and quality of alternative water supply sources.
- Analysis of future water supply needs within the general area.
- Depth of proposed exempted aquifer.
- Quality of the water in the proposed exempted aquifer.

Costs to develop the proposed exempted aquifer as a water supply source including any treatment costs and costs to develop alternative water supplies. This should include costs for well construction, transportation, water treatment, etc., for each source.

§146.04(b)93) It cannot now and will not in the future serve as a source of drinking water because: It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption.

147.2908(b)(2)(iii)

Economic considerations would also weigh heavily in EPA's evaluation of aquifer exemption requests under this section. However, unlike the previous section, the economics involved would be controlled by the cost of technology to render water fit for human consumption. Treatment methods can usually be applied to render water potable. However, costs of that treatment may often be prohibitive either in absolute terms or when compared to cost to develop alternative water supplies.

EPA's evaluation of aquifer exemption request under this section will consider the following information submitted by the applicant:

1. Concentrations and types of contaminants in the aquifer.
2. Source of contamination.
3. Whether the contamination source has been abated.
4. Extent of contaminated area.
5. Probability that the contaminant plume will pass the proposed exempted area.
6. Availability of treatment to remove contaminants from water.
7. Chemical content of proposed injected fluids.
8. Current water supply in the area.
9. Alternative water supplies.
10. Costs to develop current and probable future water supplies, and cost to develop water supply from proposed exempted aquifer. This should include well construction costs, transportation costs, water treatment costs, etc.
11. Projections on future use of the proposed aquifer.

§146.04(b)(4) It cannot now and will not in the future serve as a source of drinking water because: It is located over a Class III mining area subject to subsidence or catastrophic collapse:

An aquifer exemption request under this section should discuss the proposed mining method and why that method necessarily causes subsidence or catastrophic collapse. The possibility that non-exempted underground sources of drinking water would be contaminated due to the collapse should also be addressed in the application.

§146.04(c) [redacted]

147.2908(6)(3) advance by phillips as a condition

[redacted]